

Specification 5100-185e  
August 1997  
Superseding  
Specification 5100-185d  
April 1986

**UNITED STATES DEPARTMENT OF AGRICULTURE**  
**FOREST SERVICE**  
**SPECIFICATION FOR**  
**HOSE, RUBBER, HIGH PRESSURE, 3/4 INCH WATERWAY**

**1. SCOPE.**

1.1. Scope. The high pressure hardline rubber hose described in this specification is designed for use on USDA Forest Service hose reels on a fire engine in wildland firefighting. Hardline hose is normally exposed to high temperatures and subjected to rough wear over rocky, abrasive, and mountainous terrain. The coupling thread series designation is 1 inch 11-1/2 NPSH, with a nominal inside diameter of 0.75 inch (19.05 mm), with an overall length of 50 feet (15.24 m). Hardline hose is made of a compounded rubber tube, multiple plies of high strength textile yarn reinforcement, and a tough rubber compound cover. Working pressure is up to 600 psig (4137 kPag).

**2. APPLICABLE DOCUMENTS.**

2.1. Government Documents. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those in effect on the date of the invitation for bids or request for proposals (see 6.2).

USDA Forest Service Standard

5100-190 - Threads, Gaskets, Rocker Lugs, Connections and Fittings, Fire Hose

USDA Forest Service Specifications

5100-102 - Couplings, Fire and Suction Hose

5100-108 - Couplings, Lightweight, Fire and Suction Hose

Federal Standard

FED-STD-162 - Hose, Rubber, Visual Inspection, Guide for

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Beneficial comments, recommendations, additions, deletions and any pertinent data that may be used in improving this document should be addressed to: USDA Forest Service, San Dimas Technology and Development Center, 444 East Bonita Avenue, San Dimas, CA 91773-3198 by using the Specification Comment Sheet at the end of this document or by letter.

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Copies of federal standards are available from General Services Administration, Federal Supply Service Bureau, Standards Section, Suite 200, 470 East L'Enfant Plaza SW, Washington DC 20407.

Copies of USDA Forest Service Specifications and Standards are available from USDA Forest Service, San Dimas Technology and Development Center, 444 East Bonita Avenue, San Dimas, CA 91773-3198.

2.2. Non-Government Publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those in effect on the date of the invitation for bids or request for proposals.

American National Standards Institute Inc. (ANSI)/American Society For Quality Control (ASQC)

Z 1.4 - Sampling Procedures and Tables for Inspection by Attributes.

Address requests for copies to the American National Standards Institute Inc., 11 West 42nd Street, New York, NY 10036.

American Society for Testing and Materials (ASTM)

D 380 - Standard Methods for Testing Rubber Hose

D 573 - Standard Method of Test for Accelerated Aging of Vulcanized Rubber by the Oven Method

E 380 - Practice for Use of the International System of Units

Address requests for copies to American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

Non-Government standards and other publications normally are available from the organizations that prepare or distribute the documents. These documents also may be available in or through libraries or other informational services.

2.3. Order of Precedence. In the event of conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

### 3. REQUIREMENTS.

3.1. First Article. Unless otherwise specified, first article inspection shall be performed on a product sample(s), in accordance with 4.4.3. In addition to a product sample, a 36 inch ( 0.9 m) total length of coupled hose shall be submitted.

3.2. Construction. The hose shall be constructed with an inner rubber tube, and one or more plies of high strength textile yarn reinforcement, and an abrasion resistant rubber cover. The reinforcement yarn may be braided or knit in one or more plies over the tube or helically wound in multiples of two layers with alternate layers wound in opposite directions. A rubber compound shall be used between plies for complete adhesion of the reinforcement, tube, and cover. The nominal inside diameter of the hose shall be 0.75 inch (19.05 mm).

3.2.1. Couplings. Hardline hose shall be supplied with 1 inch 11-1/2 NPSH couplings as described in USDA Forest Service Standard 5100-190. One end of the hose shall be equipped with an internal threaded coupling section with a gasket installed and the other end with an external threaded coupling section. The couplings shall be properly installed. Skiving, or modifications of the hose ends to allow the couplings to be attached is not permitted. The couplings shall be lightweight, USDA Forest Service qualified in accordance with the minimum requirements of Specification 5100-108. Couplings qualified to USDA Forest Service Specification 5100-102 may be requested in lieu of the lightweight aluminum alloy couplings. See 6.2. Gasket material physical properties shall meet the requirements of USDA Forest Service Standard 5100-190. Aluminum alloy threaded surfaces shall be hard-coated in accordance with the requirements of USDA Forest Service Standard 5100-190.

3.3. Materials. Where more than one type of material is used in various components, there shall be no incompatibility between materials which may cause corrosion.

3.3.1. Inner Tube and Cover Material. The tube and cover shall be compounded from natural rubber, synthetic rubber, or a mixture of natural and synthetic rubber. The cover material shall be weather resistant and ozone resistant.

3.3.2. Reinforcement Material. Both fabric and yarn shall be made from high grade cotton or synthetic fiber. The fabric and yarn shall be free from defects, strong enough to meet performance requirements of this specification and be soft and pliable.

3.3.3. Color. The color of the hose shall be black.

3.3.4. Recoverable Materials. The contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR), provided all performance requirements of this specification are met.

### 3.4. Dimensions and Weights.

3.4.1. Dimensions. The hose dimensions shall be as indicated.

- a. The hose inside diameter shall be 0.75 inch  $\pm$  0.031 inch (19.05 mm  $\pm$  0.79 mm).
- b. The outside diameter shall not be more than 1.375 inch (34.93 mm).
- c. The overall hose length, with couplings, shall be 50 ft  $\pm$  6 inches (15.24 m  $\pm$  152 mm) as measured from extreme ends of the couplings.

3.4.2. Weight. The maximum weight for a 50 ft  $\pm$  6 inches (15.24 m  $\pm$  152 mm) hose length with couplings shall be 27.9 lb (12.66 kg).

3.4.3. Dimensional Tolerance. Unless otherwise noted, the following tolerances apply: one place (x.x)  $\pm$  0.1 inch (2.5 mm); two places (x.xx)  $\pm$  0.01 inch (0.25 mm) and three places (x.xxx)  $\pm$  0.010 inch (0.254 mm).

3.5. Workmanship. Workmanship shall be equal to the best commercial practices consistent with the highest engineering standards in the industry and shall be free from any defect which may impair serviceability or detract from the product's appearance.

3.5.1. Symmetry. All metal part sections shall be symmetrical and concentric to 0.030 inch (0.762 mm).

3.5.2. Extruded Components. Extruded sections shall be free from laps, sharp die marks, cracks or other defects.

3.5.3. Cast Components. Cast parts shall be fine-grained, free from blowholes, pinholes, pits, porosity, hard spots, shrinkage, cracks or other defects.

3.5.4. Rubber Components. All rubber components shall be evenly and fully formed and uniformly thick and circular throughout. There shall be no blisters, pinholes, pits, sink marks, crazing, wrinkles, voids, foreign material, or cracks. The surface of the material shall be tack free. The fabric reinforcement shall not protrude through the outer or inner surfaces but be completely embedded in the rubber material.

3.6. Threads, Waterways, Gaskets, Gasket Recesses and Rocker Lugs. All threads, waterways, gaskets, gasket recesses and rocker lugs shall be in accordance with USDA Forest Service Standard 5100-190.

3.7. Markings. Coupling markings shall be in accordance with USDA Forest Service Standard 5100-190. Markings on each length of hose shall be with permanent indelible paint or ink. The type paint or ink shall not damage the hose. All letters and numerals shall be at least 0.75 inch (19.1 mm) high. Markings shall start at 2 ft (0.6 m) from the back of the internal threaded coupling. Hose markings shall include "FSS"; "600 WP"; the manufacturer's name, trademark or other identification; and the year of manufacture.

3.8. Surface Finish. The finish for all coupling surfaces, to include threaded surfaces, shall be in accordance with USDA Forest Service Standard 5100-190.

3.9. Performance.

3.9.1. Hose Coupling Slippage. When tested in accordance with 4.6.2.3 and 4.6.2.7, there shall be no coupling slippage during hydrostatic testing.

3.9.2. Hose Elongation. When tested in accordance with 4.6.2.6, the hose shall not elongate or expand by more than 2 percent, nor shorten more than 4 percent, over the baseline dimensions determined in 4.6.2.4. There shall be no circumferential contraction.

3.9.3. Hose Twist at Working Pressure. When tested in accordance with 4.6.2.5, at a hydrostatic pressure of 600 psig (4137 kPag), the twist of the hose shall not be more than 1/3 turn for the total length of hose, in the direction (left) to loosen the couplings. There shall be no leaks from the threaded connection, cracks, breaks, permanent deformation, mechanical damage or structural failure.

3.9.4. Burst Pressure. When tested in accordance with 4.6.3, the hose shall not burst when hydrostatic pressure of 2400 psig (16,548 kPag) is applied. There shall be no leaks from the threaded connection, cracks, breaks, permanent deformation, mechanical damage or structural failure.

3.9.5. Cover, Reinforcement, and Tube Adhesion. When tested in accordance with 4.5.5, the force to separate the hose cover, reinforcement, and tube shall not be less than the value indicated in Table 1.

Table 1. Hose Component Adhesion Values

Between Reinforcement and	Minimum Force	
	lb force	Newtons
Cover	10.0	44.5
Tube	10.0	44.5
Reinforcement (2 or more plies)	12.0	53.4

3.9.6. Tensile Strength of Cover and Tube. When tested in accordance with 4.5.6, the hose cover shall withstand a minimum tensile load of 1200 psi (8274 kPa) and the tube shall withstand a minimum tensile load of 1000 psi (6895 kPa) before oven aging. The tensile strength of the hose cover and tube shall retain a minimum 80 percent of the original tensile strength values, after oven aging.

3.9.7. Elongation of Cover and Tube. When tested in accordance with 4.5.7, the hose cover shall elongate a minimum 250 percent and the tube shall elongate a minimum 200 percent at break before oven aging. The hose cover and tube shall retain a minimum of 50 percent of the original elongation values, after oven aging.

3.9.8. Ozone Resistance. When tested in accordance with 4.5.8, the hose cover shall withstand an ozone concentration of  $100 \pm 5$  parts per hundred million for 24 hours conditioning and 70 hours exposure at  $104 \pm 1.8$  °F ( $40 \pm 1$  °C). There shall be no evidence of cracking or crazing when examined under 7 X magnification.

3.9.9. Low Temperature Exposed Hose. When tested in accordance with 4.5.9, the hose shall withstand a working pressure of 600 psig (4137 kPag) after being subjected to a low temperature condition. There shall be no leaks from the threaded connection, cracks, breaks, permanent deformation, mechanical damage or structural failure.

3.10. Metric Products. Metric dimensions are provided for information only, inch-pound units shall be the required units of measure for this specification. Thread series designation is indicated as 1 inch 11-1/2 NPSH. Since this is a thread series designation, not an indication of a specific dimension, the metric equivalent is not given. Products manufactured to metric dimensions shall be considered on an equal basis with those manufactured using inch-pound units, provided they fall within the tolerances specified using conversion tables contained in the latest revision of ASTM E 380, and all other requirements of this specification are met.

#### 4. INSPECTION, SAMPLING AND TEST PROCEDURES.

4.1. General Inspection and Tests. Unless otherwise specified in the contract or purchase order, the contractor is responsible for performance of all inspection requirements prior to submission for Government acceptance inspection and tests. The contractor may utilize their own facilities or any commercial laboratory acceptable to the Government. Inspection records of the examination and tests shall be kept complete and available to the Government.

4.1.1. Inspection and Test Site. The Government shall conduct lot acceptance inspection and tests to determine compliance with the specification. If lot acceptance and tests are conducted at locations other than the manufacturing facilities, the contracting officer shall specify location and arrangements. In the case of on-site inspections at the contractor's facility, the contractor shall furnish the inspector all reasonable facilities for their work. During any inspection, the inspector may take from the lot one or more samples and submit them to an independent test laboratory approved by the Government or to a Government test facility for inspection and tests.

4.1.2. Testing With Referenced Documents. The contractor is responsible for ensuring that components and materials used were manufactured, examined and tested in accordance with referenced specifications and standards. The Government reserves the right to perform any of the inspections or tests set forth in this section where such action is deemed necessary to assure supplies and services conform to prescribed requirements.

4.2. Responsibility for Compliance. All items shall meet all requirements of sections 3 and 4. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in this specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

4.3. Sampling for Inspection. When inspection is performed, sampling shall be in accordance with ANSI/ASQC Z 1.4.

4.3.1. Lot. All hoses of one size presented together in one delivery shall be considered a lot for the purpose of inspection. A sample unit shall be one length of coupled high-pressure hose.

4.3.2. Sampling for Visual and Dimensional Examination. Sampling for visual and dimensional examination shall be S-2, with an Acceptable Quality Level (AQL) of 1.5 percent defective.

4.3.3. Sampling for Lot Acceptance Tests. Sampling for lot acceptance testing shall be S-2, with an AQL of 1.5 percent defective.

4.3.3.1. Special Sampling for Hydrostatic Testing for Lot Acceptance. A special sampling for elongation, twist and burst testing for lot acceptance shall be S-2, with an AQL of 1.5 percent defective.

#### 4.4. Inspection and Tests.

4.4.1. Visual and Dimensional Examination. When selected in accordance with 4.3.2, each test sample shall be visually and dimensionally examined to determine conformance with this specification. Visual or dimensional defects shall be classified as major or minor. Federal Standard FED-STD-162 shall be used to determine other major and minor defects not listed in Table 2. If the number of defects in any sample exceeds the indicated AQL, the lot shall be rejected.

Table 2. Major and Minor Defects

Defect	Classification	
	Major	Minor
1. Construction of hose not as required.	X	
2. Cover, reinforcement and tube material not as required.	X	
3. Hose dimensions and weight not as required.	X	
4. Couplings not as required.	X	
5. Workmanship not as required.	X	
6. Major defects as per Federal Standard FED-STD-162.	X	
7. Minor defects as per Federal Standard FED-STD-162.		X
8. Marking not as required.		X
9. Color not as required.	X	

4.4.2. Lot Acceptance Tests. Each of the samples selected in accordance with 4.3.3, shall be tested in accordance with 4.6, to determine conformance with requirements of this specification.

4.4.3. First Article Inspection. Unless otherwise specified (see 6.2), the first article sample(s) indicated in 3.1, shall be inspected as specified in 4.4.1 and 4.6. All inspection and testing of the first article sample(s) shall stop upon a single failure and the sample(s) rejected. The contractor shall be informed as to the nature of the failure, but the Government shall not be obligated to continue testing a defective item, once it is known to be defective or when it is considered in the best interest of the Government.

4.4.4. Quality Conformance Inspection. Unless otherwise specified, sampling for inspection shall be performed in accordance with ANSI/ASQC Z 1.4. The inspection level and AQL shall be as specified in 4.3.3.

4.5. Certificate of Conformance. A Certificate of Conformance shall meet the requirements of USDA Forest Service Standard 5100-190. Where certificates of conformance are required, the Government reserves the right to verify test any such items to determine the validity of certification. These certificates shall be based on the testing of component materials and may be performed by the component material supplier. The contractor shall provide certificates of conformance for 3.2.1, 3.3.1, 3.3.2, 3.9.5, 3.9.6, 3.9.7, 3.9.8 and 3.9.9 (see 4.5.2, 4.5.3, 4.5.4, 4.5.5, 4.5.6, 4.5.7, 4.5.8 and 4.5.9).

4.5.1. Certificates of Conformance in Lieu of Testing. Unless otherwise specified, certificates of conformance may be acceptable in lieu of testing end items.

4.5.2. Couplings. As required by 3.2.1, the couplings shall meet the indicated material physical property requirement listed, when tested to defined test method.

4.5.3. Inner Tube and Cover Material. As required by 3.3.1, the material for the inner tube and cover shall meet the indicated physical properties listed.

4.5.4. Reinforcement Material. As required by 3.3.2, the reinforcement material shall meet the indicated physical properties listed.

4.5.5. Cover, Reinforcement and Tube Adhesion Tests. As required by 3.9.5, the cover, reinforcement and tube shall be tested for adhesion. A tension force shall be applied to the reinforcement in accordance with ASTM D 380. The tension force at which the cover, tube and additional reinforcement plies separate from the reinforcement shall be recorded.

4.5.6. Tensile Strength of Cover and Tube Tests. As required by 3.9.6, the hose cover and tube shall be subjected to tensile strength testing before and after oven aging. Oven aging shall then be conducted in accordance with ASTM D 573. The specimen shall be subjected to a temperature of  $158.0 \pm 2.0$  °F ( $70.0 \pm 1.1$  °C) for 96 hours, cooled to room temperature on a flat surface and allowed to rest for 16 to 48 hours. Hose cover and tube tensile strength after oven aging shall be determined.

4.5.7. Elongation of Cover and Tube. As required by 3.9.7, the hose cover and tube shall be subjected to elongation testing before and after oven aging. Elongation testing shall be conducted in accordance with ASTM D 380. The specimen lining shall be subjected to a temperature of  $158.0 \pm 2.0$  °F ( $70.0 \pm 1.1$  °C) for 96 hours, cooled to room temperature on a flat surface and allowed to rest for 16 to 48 hours. Oven aging shall then be conducted in accordance with ASTM D 573. Hose cover and tube elongation after oven aging shall be determined.

4.5.8. Hose Cover Resistance to Ozone Test. As required by 3.9.8, the hose cover shall be tested for ozone resistance. The specimen shall be subjected to an ozone concentration of  $100 \pm 5$  parts per hundred million, for 24 hours conditioning and 70 hours exposure at  $104.0 \pm 1.8$  °F ( $40.0 \pm 1.0$  °C).

4.5.9. Working Pressure Test of Low Temperature Exposed Hose. As required by 3.9.9, the hose shall be tested for working pressure after exposure to a low temperature. A 20 inch (508 mm) hose sample shall be exposed to a temperature of  $-40.0$  °F ( $-22.2$  °C) for 24 hours. Bend the hose through 180 degrees within 8 to 12 seconds and apply a working pressure of 600 psig (4137 kPag). The rate for applying the working pressure shall not be less than 300 psig (2068 kPag) per minute and not more than 600 psig (4137 kPag) per minute, i.e., at a uniform rate over a one to two minute time interval. There shall be no leaks from the threaded connection, cracks, breaks, permanent deformation, mechanical damage or structural failure.

4.6. Performance Testing. Samples shall be subjected to the following tests to determine if the samples meet the requirements of this specification.

4.6.1. Fluid Medium. All testing requiring the use of a fluid medium shall be performed using municipally supplied potable water; this shall include, but is not limited to pressure testing. If the contractor does not have access to a municipal water supply, the testing shall be performed using any clear fresh water normally available for firefighting. First article testing performed by the Government shall be conducted using municipally supplied potable water.

4.6.2. Hydrostatic Testing.

4.6.2.1. Test Apparatus. Hydrostatic testing shall be conducted on a clean stainless steel table, at least 55 feet (16.8 m) long. A reference line shall be indicated on the test table as a straight line between the axial centers of the hose couplings, with the internal threaded coupling attached to a water pressure source. Test equipment shall include a pump capable of providing a hydrostatic pressure of 1200 psig (8274 kPag). The rate for applying hydrostatic pressure for the following tests shall not be less than 300 psig (2069 kPag) per minute and not more than 600 psig (4137 kPag) per minute, i.e., at a uniform rate over a two to four minute time interval.



4.6.2.2. Preparation of Test Specimens. Connect the internal threaded coupling to a water pressure source and position the hose over the reference line on the test table. Attach a petcock to the external threaded coupling. Water pressure shall be applied with the external threaded coupling positioned at a height of at least 12 inches (305 mm) as pressure is applied. Close the petcock when all air has been exhausted out of the hose.

4.6.2.3. Hose Slippage Marking. As required by 3.9.1, the test hose shall be marked at the back of each coupling in order to determine any coupling hose slippage during hydrostatic testing.

4.6.2.4. Baseline Measurement at 10 psig (69 kPag). As required by 3.9.2, length and external diameter measurements at 10 psig (69 kPag) shall be obtained in order to determine elongation and circumferential contraction. Apply a hydrostatic pressure of 10 psig (69 kPag) and hold. The total length of the hose shall be measured from extreme ends of the couplings. The diameter of the hose shall be measured at 3 ft (0.91 m) from each coupling, and at approximately the middle of the hose.

4.6.2.5. Twist at Working Pressure Test. As required by 3.9.3, the hose shall be tested for twist at the working pressure. Increase the hydrostatic pressure to 600 psig (4137 kPag). Check to see that the twist does not exceed 1/3 turn for the total length of the hose. Evaluate the direction of twist in relation to the coupling. The coupled hose shall be examined for leaking. There shall be no leaks from the threaded connection, cracks, breaks, permanent deformation, mechanical damage or structural failure.

4.6.2.6. Elongation Measurement at 600 psig (4137 kPag). As required by 3.9.2, with the hydrostatic pressure at 600 psig (4137 kPag) the hose shall be tested for elongation, outside diameter expansion and circumferential contraction. The total length and diameter of the hose shall be measured as in 4.6.2.4. The percentage elongation and circumferential contraction shall be calculated.

4.6.2.7. Proof Pressure and Hose Coupling Slippage. As required by 3.9.1, with the hydrostatic pressure at 1200 psig (8274 kPag) the marks placed on the hose at the back of the couplings shall be observed for coupling slippage. There shall be no leaks from the threaded connection, cracks, breaks, permanent deformation, mechanical damage or structural failure.

4.6.3. Burst Pressure Test. As required by 3.9.4, the hose shall be tested for burst pressure. The specimen shall be 36 inches ( 0.9 m) in length. The hose shall be positioned in a straight line or curved in a radius of not less than 27 inches (686 mm). The hose shall be coupled and a hydrostatic pressure of 2400 psig (16,548 kPag) applied. The rate for applying hydrostatic pressure for the following tests shall not be less than 300 psig (2069 kPag) per minute and not more than 600 psig (4137 kPag) per minute, i.e., at a uniform rate over a four to eight minute time interval. The hose shall not burst before or upon reaching a hydrostatic pressure of 2400 psig (16,548 kPag). There shall be no leaks from the threaded connection, cracks, breaks, permanent deformation, mechanical damage or structural failure.

## 5. PACKAGING, PACKING AND MARKING.

5.1. Packaging, Packing and Marking. The packaging, packing and marking shall be as specified in the contract or order.

## 6. NOTES.

6.1. Intended Use. The high pressure hardline rubber hose described in this specification is designed for use on USDA Forest Service hose reels on a fire engine in wildland firefighting. Hardline hose is normally exposed to high temperatures and subjected to rough wear over rocky, abrasive, and mountainous terrain.

6.2. Acquisition Requirements. Acquisition documents should specify the following:

- a. Title, number, and date of this specification.
- b. If a first article sampling and inspection is not required (see 3.1, 4.4.3, and 6.3).
- c. If couplings qualified to USDA Forest Service Specification 5100-102 are required in lieu of lightweight aluminum alloy couplings.
- d. If certificates of conformance are acceptable in lieu of lot by lot testing (see 4.4.2 and 4.5).
- e. Packaging, packing and marking (see 5.1).
- f. Date of the invitation for bids or request for proposals (see 2.1).

6.3. First Article. When a first article sample(s) is required, it shall be inspected and approved in accordance with the First Article clauses set forth in the solicitation. Specific instructions shall be included regarding arrangements for selection, inspection, and approval of the first article sample(s).

6.4. Notice. When Government drawings, specifications, or other data are used for any purpose other than in connection with a related Government procurement operation, the United States Government thereby incurs no responsibility nor any obligation whatsoever.

6.5. Preparing Activity. USDA Forest Service, San Dimas Technology and Development Center, 444 East Bonita Avenue, San Dimas, CA 91773-3198.

**United States Department of Agriculture, Forest Service  
Standardization Document Improvement Proposal**

**Instructions:** This form is provided to solicit beneficial comments which may improve this document and enhance its use. Contractors, government activities, manufacturers, vendors, or other prospective users of this document are invited to submit comments to the USDA Forest Service, San Dimas Technology and Development Center, 444 East Bonita Avenue, San Dimas, California 91773-3198. Attach any pertinent data which may be used in improving this document. If there is additional documentation, attach it to the form and place both in an envelope addressed to the preparing activity. A response will be provided when a name and address are included.

**Note:** This form shall not be used to submit request for waivers, deviation, or for clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

Standard Number and Title: **Specification 5100-185e, Hose, Rubber, High Pressure, 3/4 inch Waterway**

Name of Organization and Address:

\_\_\_\_\_ Vendor \_\_\_\_\_ User \_\_\_\_\_ Manufacturer

1. \_\_\_\_\_ Has any part of this document created problems or required interpretation in procurement use?  
 \_\_\_\_\_ Is any part of this document too rigid, restrictive, loose or ambiguous? Please explain below.

Give paragraph number and wording:

Recommended change(s):

Reason for recommended change(s):

Remarks:

Submitted by: (Print or type name and address—Optional)

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Date:

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USDA Forest Service  
San Dimas Technology & Development Center  
ATTN: Water Handling Project Leader  
444 East Bonita Avenue  
San Dimas, California 91773-3198

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